

The following Listing of Claims will replace all prior versions, and listings, of claims in the application.

**LISTING OF CLAIMS:**

1. – 29. (Canceled).

30. (Currently Amended) An information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising:

an oxygen partial pressure calculating and monitoring unit configured to calculate oxygen partial pressure of each of said first and second cylinders and to prohibit the diver based on a result of calculating said oxygen partial pressure, upon a determination of a possibility of oxygen deficiency or oxygen poisoning in using said second cylinder, from switching from said first cylinder to said second cylinder when the diver attempts to switch to selects to use said second cylinder from while using said first cylinder upon a determination of a possibility of oxygen deficiency or oxygen poisoning if said second cylinder is used.

31. (Original) The information processing device according to claim 30, wherein

at least one of said first and second cylinders contains oxygen as one of the diving gases.

32. (Original) The information processing device according to claim 30, wherein

said oxygen partial pressure calculating and monitoring unit includes

an oxygen partial pressure violation determining unit configured to calculate an oxygen partial pressure and determine whether there is the possibility of oxygen poisoning or oxygen deficiency, and

a notification unit configured to notify the diver when there is the possibility of oxygen poisoning or oxygen deficiency.

33. (Previously Presented) The information processing device according to claim 30, wherein

said oxygen partial pressure calculating and monitoring unit is configured to execute a process that permits switching from said first cylinder to said second cylinder, when the diver selects to use said second cylinder while using said first tank, and upon a determination of no possibility of oxygen deficiency or oxygen poisoning based on an oxygen partial pressure value if said second cylinder is used.

34. (Previously Presented) The information processing device according to claim 32, wherein

said notification unit is configured to notify the diver whether switching to said second cylinder is permitted by using at least one of display, alarm sound, and alarm vibration.

35. (Currently Amended) The information processing device according to claim 30, further comprising,[[:]]

a time keeping section configured to measure an elapsed dive time;

a water depth gauging section configured to detect a water depth value at a diving location of the diver in accordance with a preset elapsed dive time; and

a diving information storage unit configured to store said elapsed dive time and said detected water depth value.

36. (Currently Amended) An information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising:

a switching condition storage unit configured to store at least one switching condition during diving for each of said first and second cylinders, said switching condition selected and inputted by the diver in order to determine when to switch between said first cylinder and said second cylinder;

a switch destination cylinder selecting unit configured to receive a user input for switching from said first cylinder to said second cylinder while the diver is using said first cylinder;

a safety determining unit configured to determine whether there is a possibility of oxygen poisoning or oxygen deficiency if said second cylinder is used; and

a warning unit configured to warn the diver when the possibility of oxygen poisoning or oxygen deficiency has been determined.

37. (Original) The information processing device according to claim 36, further comprising

a cylinder information presentation unit configured to present to the diver information about said second cylinder when the diver has selected to switch to said second cylinder.

38. (Original) The information processing device according to claim 37, wherein

said information about said second cylinder includes a mixture ratio of the diving gases in said second cylinder and a diving condition information in a situation when said second cylinder is used.

39. (Original) The information processing device according to claim 38, wherein

said diving condition information includes a permissible non-decompression dive time or decompression diving instruction, and oxygen partial pressure.

40. (Currently Amended) A control method for an information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising:

performing an oxygen partial pressure calculating and monitoring step for calculating and monitoring oxygen partial pressure; and

performing a switch prohibiting step for calculating oxygen partial pressure of each of said first and second cylinders and prohibiting the diver based on a result of calculating said

oxygen partial pressure, upon a determination of a possibility of oxygen deficiency or oxygen poisoning in using said second cylinder, from switching from said first cylinder to said second cylinder when the diver attempts to switch ~~selects to use said second cylinder from while using said first cylinder upon a determination of a possibility of oxygen deficiency or oxygen poisoning if said second cylinder is used.~~

41. (Original) The control method for the information processing device according to claim 40, further comprising  
said oxygen partial pressure calculating and monitoring step includes  
performing an oxygen partial pressure violation determining step for determining whether there is the possibility of oxygen poisoning or oxygen deficiency,  
and  
performing a notification step for notifying the diver when there is the possibility of oxygen poisoning or oxygen deficiency.

42. (Original) The control method for the information processing device according to claim 40, wherein  
the switch prohibiting step includes permitting switching from said first cylinder to said second cylinder, when the diver selects to use said second cylinder while using said first tank, and upon a determination of no possibility of oxygen deficiency or oxygen poisoning based on an oxygen partial pressure value if said second cylinder is used.

43. (Previously Presented) The control method for the information processing device according to claim 41, wherein  
said notification step includes notifying the diver whether switching to said second cylinder is permitted by using at least one of display, alarm sound, and alarm vibration.

44. (Original) The control method for the information processing device according to claim 40, further comprising  
performing a time keeping step for measuring an elapsed dive time,  
performing a water depth gauging step for detecting a water depth value at a diving location of the diver in accordance with a preset elapsed dive time, and

performing a diving information storing step for storing said elapsed dive time and said detected water depth value.

45. (Currently Amended) A control method for an information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising:

performing a switching condition storing step for storing at least one switching condition during diving for each of said first and second cylinders, said switching condition selected and inputted by the diver in order to determine when to switch between said first cylinder and said second cylinder;

performing a switch destination cylinder selecting step for receiving a user input for switching from said first cylinder to said second cylinder while the diver is using said first cylinder;

performing a safety determining step for determining whether there is a possibility of oxygen poisoning or oxygen deficiency if said second cylinder is used; and

performing a warning step for warning the diver when the possibility of oxygen poisoning or oxygen deficiency has been determined.

46. (Original) The control method for the information processing device according to claim 45, further comprising

performing a cylinder information presentation step for presenting to the diver information about said second cylinder when the diver has selected to switch to said second cylinder.

47. (Original) The control method for the information processing device according to claim 46, wherein

said information about said second cylinder includes a mixture ratio of the diving gases in said second cylinder and a diving condition information in a situation when said second cylinder is used.

48. (Original) The information processing device according to claim 47, wherein

said diving condition information includes a permissible non-decompression dive time or decompression diving instruction, and oxygen partial pressure.

49. (Currently Amended) A control program for controlling with a computer an information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising instructions for performing:

calculating and monitoring oxygen partial pressure of each of said first and second cylinders;

determining a possibility of oxygen deficiency or oxygen poisoning if said second cylinder is used when the diver selects to switch to said second cylinder while using said first cylinder; and

prohibiting the diver based on a result of calculating said oxygen partial pressure, upon a determination of a possibility of oxygen deficiency or oxygen poisoning un using said second cylinder, from switching from said first cylinder to said second cylinder when the diver attempts to switch to said second cylinder from said first cylinder upon a determination of the possibility of oxygen deficiency or oxygen poisoning.

50. (Original) The control program according to claim 49, further comprising instructions for performing

determining whether there is the possibility of oxygen poisoning or oxygen deficiency based on the oxygen partial pressure; and

notifying the diver when there is the possibility of oxygen poisoning or oxygen deficiency.

51. (Original) The control program according to claims 49 or 50, wherein said oxygen partial pressure calculating and monitoring unit permits switching from said first cylinder to said second cylinder, when the diver selects to use said second cylinder

while using said first tank, and upon a determination of no possibility of oxygen deficiency or oxygen poisoning based on an oxygen partial pressure value if said second cylinder is used.

52. (Previously Presented) The control program according to claim 51, further comprising a instruction for performing  
notifying the diver whether switching to said second cylinder is permitted by using at least one of display, alarm sound, or and alarm vibration.

53. (Original) The control program according to claim 49, further comprising instructions for performing  
measuring an elapsed dive time,  
detecting a water depth value at a diving location of the diver in accordance with a preset elapsed dive time, and  
storing said elapsed dive time and said detected depth value.

54. (Currently Amended) A control program for controlling with a computer An information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising instructions for performing:

storing at least one switching condition during diving for each of said first and second cylinders, said switching condition selected and inputted by the diver in order to determine when to switch between said first cylinder and said second cylinder;

receiving a user input for switching from said first cylinder to said second cylinder while the diver is using said first cylinder;

determining whether there is a possibility of oxygen poisoning or oxygen deficiency if said second cylinder is used; and

warning the diver when the possibility of oxygen poisoning or oxygen deficiency has been determined.

55. (Original) The control program according to claim 54, further comprising a instruction for performing

presenting to the diver information about said second cylinder when the diver has selected to switch to said second cylinder.

56. (Original) The control program according to claim 55, wherein said information about said second cylinder includes a mixture ratio of the diving gases in said second cylinder and a diving condition information in a situation when said second cylinder is used.

57. (Original) The control program according to claim 56, wherein said diving condition information includes a permissible non-decompression dive time or decompression diving instruction, and oxygen partial pressure.

58. (Currently Amended) A computer readable recording medium for storing a control program for controlling with a computer an information processing device for a diver adapted to be used for diving with at least first and second cylinders respectively containing first and second mixed gases in which a plurality of diving gases are mixed with different mixture ratios for each of said first and second cylinders, comprising instructions for performing:

calculating and monitoring oxygen partial pressure;

determining a possibility of oxygen deficiency or oxygen poisoning if said second cylinder is used when the diver selects to switch to said second cylinder while using said first cylinder; and

prohibiting the diver, upon a determination of the possibility of oxygen deficiency or oxygen poisoning, from switching from said first cylinder to said second cylinder when the diver attempts to switch to said second cylinder from said first cylinder ~~upon a determination of the possibility of oxygen deficiency or oxygen poisoning.~~

59. – 67. (Canceled).

68. (New) The information processing device according to claim 36, wherein said switching condition is in dive time, amount of oxygen in diver's body, amount of inert gas in diver's body, possible dive time, or diving depth.